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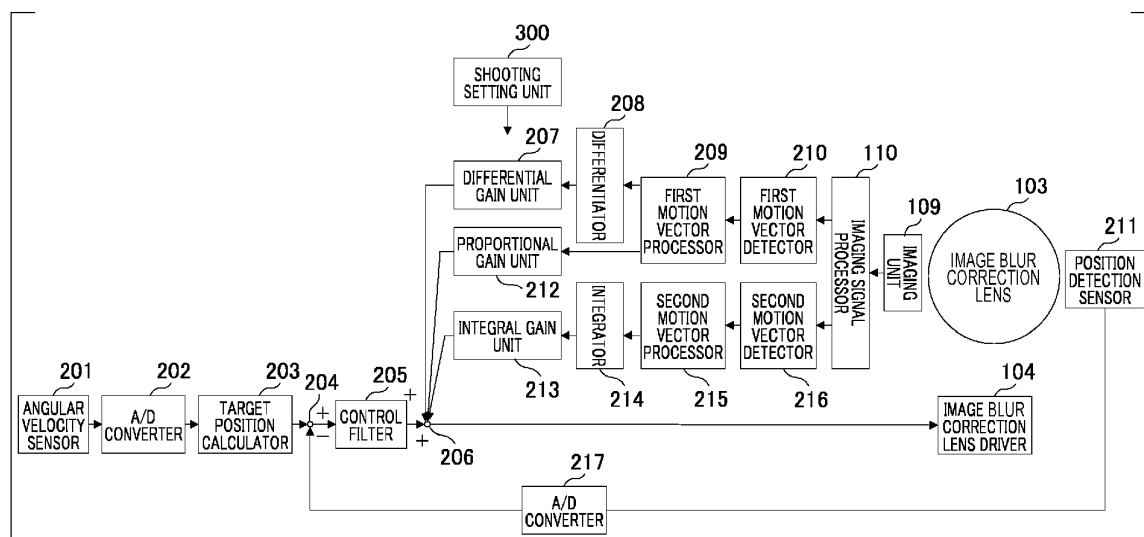
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(54) **IMAGING APPARATUS AND CONTROL METHOD FOR THE SAME**

(57) In an imaging apparatus, a first motion vector detector calculates a first motion vector on the basis of images with a low spatial resolution and a second motion vector detector calculates a second motion vector on the basis of images with a high spatial resolution. A first control amount having a great weight for information with a low frequency resolution with respect to frequency components of the first motion vector information and a second control amount having a great weight for information

with a high frequency resolution with respect to frequency components of the second motion vector information are calculated. A third control amount is calculated through multiplication by a predetermined weight regardless of the frequency resolution with respect to frequency components of the first or second motion vector information. Drive control of an image blur correction lens is performed according to the first to third control amounts.

FIG. 3





## EUROPEAN SEARCH REPORT

Application Number  
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| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                              |                                                        |                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------|
| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Citation of document with indication, where appropriate, of relevant passages                                                | Relevant to claim                                      | CLASSIFICATION OF THE APPLICATION (IPC) |
| X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | US 2006/017814 A1 (PINTO VICTOR [IL] ET AL) 26 January 2006 (2006-01-26)                                                     | 1,23                                                   | INV.<br>H04N5/232<br>G06T5/00           |
| Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | * paragraphs [0001], [0039] - [0043];                                                                                        | 22                                                     |                                         |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | figure 6 *                                                                                                                   | 2-7                                                    |                                         |
| Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | US 2007/183765 A1 (IMAMURA KEIICHI [JP]) 9 August 2007 (2007-08-09)<br>* paragraph [0006] *                                  | 22                                                     |                                         |
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| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | US 2016/234440 A1 (LEE YONGGU [KR] ET AL) 11 August 2016 (2016-08-11)<br>* paragraphs [0024], [0057] - [0061];<br>figure 6 * | 14-21                                                  |                                         |
| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                              |                                                        |                                         |
| Place of search<br><b>The Hague</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                              | Date of completion of the search<br><b>17 May 2019</b> | Examiner<br><b>Mao, Pauline</b>         |
| <p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone<br/>Y : particularly relevant if combined with another document of the same category<br/>A : technological background<br/>O : non-written disclosure<br/>P : intermediate document</p> <p>T : theory or principle underlying the invention<br/>E : earlier patent document, but published on, or after the filing date<br/>D : document cited in the application<br/>L : document cited for other reasons<br/>&amp; : member of the same patent family, corresponding document</p> |                                                                                                                              |                                                        |                                         |

EPO FORM 1503 03.82 (P04C01)



Application Number

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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION**  
**SHEET B**

Application Number  
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-7, 22, 23

Image blur correction apparatus based on frequency  
resolution of two motion vector informations

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2. claims: 8-13

Image blur correction apparatus based on phase compensation

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3. claims: 14-21

Image blur correction apparatus based on two shake  
informations extracted from two motion vector informations

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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